



# **Avaya Integrated Management Release 3.0**

**Enterprise Network Management  
Installation and Upgrade**

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#### Warranty

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#### Preventing Toll Fraud

"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

#### Avaya Fraud Intervention

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, in the United States and Canada, call the Technical Service Center's Toll Fraud Intervention Hotline at 1-800-643-2353.

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#### How to Get Help

For additional support telephone numbers, go to the Avaya support Web site: <http://www.avaya.com/support>. If you are:

- Within the United States, click the *Escalation Management* link. Then click the appropriate link for the type of support you need.
- Outside the United States, click the *Escalation Management* link. Then click the *International Services* link that includes telephone numbers for the international Centers of Excellence.

#### Providing Telecommunications Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of) your company's telecommunications equipment by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based), or asynchronous (character-, message-, or packet-based) equipment, or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

#### Responsibility for Your Company's Telecommunications Security

The final responsibility for securing both this system and its networked equipment rests with you - Avaya's customer system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- Your Avaya-provided telecommunications systems and their interfaces
- Your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

#### TCP/IP Facilities

Customers may experience differences in product performance, reliability and security depending upon network configurations/design and topologies, even when the product performs as warranted.

#### Standards Compliance

Avaya Inc. is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Avaya Inc. The correction of interference caused by such unauthorized modifications, substitution or attachment will be the responsibility of the user. Pursuant to Part 15 of the Federal Communications Commission (FCC) Rules, the user is cautioned that changes or modifications not expressly approved by Avaya Inc. could void the user's authority to operate this equipment.

#### Product Safety Standards

This product complies with and conforms to the following international Product Safety standards as applicable:

Safety of Information Technology Equipment, IEC 60950, 3rd Edition, or IEC 60950-1, 1st Edition, including all relevant national deviations as listed in Compliance with IEC for Electrical Equipment (IECEE) CB-96A.

Safety of Information Technology Equipment, CAN/CSA-C22.2 No. 60950-00 / UL 60950, 3rd Edition, or CAN/CSA-C22.2 No. 60950-1-03 / UL 60950-1.

Safety Requirements for Information Technology Equipment, AS/NZS 60950:2000.

One or more of the following Mexican national standards, as applicable: NOM 001 SCFI 1993, NOM SCFI 016 1993, NOM 019 SCFI 1998.

The equipment described in this document may contain Class 1 LASER Device(s). These devices comply with the following standards:

- EN 60825-1, Edition 1.1, 1998-01
- 21 CFR 1040.10 and CFR 1040.11.

The LASER devices used in Avaya equipment typically operate within the following parameters:

Typical Center Wavelength	Maximum Output Power
830 nm - 860 nm	-1.5 dBm
1270 nm - 1360 nm	-3.0 dBm
1540 nm - 1570 nm	5.0 dBm

Luokan 1 Laserlaite

Klass 1 Laser Apparat

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposures. Contact your Avaya representative for more laser product information.

### Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997, EN55022:1998, and AS/NZS 3548.

Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

- Electrostatic Discharge (ESD) IEC 61000-4-2
- Radiated Immunity IEC 61000-4-3
- Electrical Fast Transient IEC 61000-4-4
- Lightning Effects IEC 61000-4-5
- Conducted Immunity IEC 61000-4-6
- Mains Frequency Magnetic Field IEC 61000-4-8
- Voltage Dips and Variations IEC 61000-4-11

Power Line Emissions, IEC 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions.

Power Line Emissions, IEC 61000-3-3: Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.

### Federal Communications Commission Statement

#### Part 15:

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### Part 68: Answer-Supervision Signaling

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- answered by the called station,
- answered by the attendant, or
- routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.

This equipment returns answer-supervision signals on all direct inward dialed (DID) calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered.
- A busy tone is received.
- A reorder tone is received.

Avaya attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

#### REN Number

##### For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

This equipment complies with Part 68 of the FCC rules. On either the rear or inside the front cover of this equipment is a label that contains, among other information, the FCC registration number, and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

##### For G350 and G700 Media Gateways:

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the rear of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. The digits represented by ## are the ringer equivalence number (REN) without a decimal point (for example, 03 is a REN of 0.3). If requested, this number must be provided to the telephone company.

##### For all media gateways:

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

REN is not required for some types of analog or digital facilities.

### Means of Connection

Connection of this equipment to the telephone network is shown in the following tables.

#### For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/ REN/ A.S. Code	Network Jacks
Off premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
	02LS2	0.3A	RJ21X
Tie trunk	TL31M	9.0F	RJ2GX
Basic Rate Interface	02IS5	6.0F, 6.0Y	RJ49C
1.544 digital interface	04DU9-BN	6.0F	RJ48C, RJ48M
	04DU9-IKN	6.0F	RJ48C, RJ48M
	04DU9-ISN	6.0F	RJ48C, RJ48M
120A4 channel service unit	04DU9-DN	6.0Y	RJ48C

#### For G350 and G700 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/ REN/ A.S. Code	Network Jacks
Ground Start CO trunk	02GS2	1.0A	RJ11C
DID trunk	02RV2-T	AS.0	RJ11C
Loop Start CO trunk	02LS2	0.5A	RJ11C
1.544 digital interface	04DU9-BN	6.0Y	RJ48C
	04DU9-DN	6.0Y	RJ48C
	04DU9-IKN	6.0Y	RJ48C
	04DU9-ISN	6.0Y	RJ48C
Basic Rate Interface	02IS5	6.0F	RJ49C

#### For all media gateways:

If the terminal equipment (for example, the media server or media gateway) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242- 2121 or contact your local Avaya representative. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. It is recommended that repairs be performed by Avaya certified technicians. The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information. This equipment, if it uses a telephone receiver, is hearing aid compatible.

#### **Canadian Department of Communications (DOC) Interference Information**

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada. This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

#### **Installation and Repairs**

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

#### **Declarations of Conformity**

United States FCC Part 68 Supplier's Declaration of Conformity (SDoC) Avaya Inc. in the United States of America hereby certifies that the equipment described in this document and bearing a TIA TSB-168 label identification number complies with the FCC's Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria. Avaya further asserts that Avaya handset-equipped terminal equipment described in this document complies with Paragraph 68.316 of the FCC Rules and Regulations defining Hearing Aid Compatibility and is deemed compatible with hearing aids. Copies of SDoCs signed by the Responsible Party in the U. S. can be obtained by contacting your local sales representative and are available on the following Web site: <http://www.avaya.com/support>. All Avaya media servers and media gateways are compliant with FCC Part 68, but many have been registered with the FCC before the SDoC process was available. A list of all Avaya registered products may be found at: <http://www.part68.org> by conducting a search using "Avaya" as manufacturer.

#### **European Union Declarations of Conformity**



Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Européenne*) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC). Copies of these Declarations of Conformity (DoCs) can be obtained by contacting your local sales representative and are available on the following Web site: <http://www.avaya.com/support>.

#### **Japan**

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

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Haverhill, MA 01835 USA  
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E-mail: [totalware@gwsml.com](mailto:totalware@gwsml.com)

For the most current versions of documentation, go to the Avaya support Web site: <http://www.avaya.com/support>.

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# Chapter 1: Introduction

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## Purpose

The purpose of this book is to provide the following information:

- Hardware and software requirements for Microsoft® Windows® servers and Windows client PCs.
- Pre-installation tasks that must be completed prior to installation.
- Procedures to install the products in the Avaya Integrated Management, Enterprise Network Management offer. If any of the products included in this offer are already installed on your system, those products will be upgraded during this installation.

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## Prerequisites

System administrators who install the Enterprise Network Management software should be experienced in installing software on Windows operating systems in a converged network environment.

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## Intended Audience

This book is written for system administrators who are responsible for installing software on Windows servers and clients.

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## Conventions Used in This Book

The following typographical conventions are used:

- **Bold** type is used to indicate information that you type, buttons in a window, and the **Enter** key on the keyboard. It is also used for emphasis.
- `Courier` font is used for any information that the computer screen displays.
- Arrows indicate options that you select from cascading menus; for example, “Select File > Open” means choose the “Open” option from the “File” menu.

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## Support Resources

Avaya provides a variety of planning, consulting, and technical services. The following sections describe the resources and services that are available.

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### Avaya Technology and Consulting (ATAC)

Avaya Technology and Consulting (ATAC) works with client teams to develop detailed solutions for connectivity to Avaya Communication Manager solutions. The ATAC also designs network configurations.

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### Communications, Solutions, and Integration (CSI) Group of Software Services

Avaya Communications, Solutions, and Integration (CSI) Group of Software Services offers customers the following services:

- Platform readiness verification
- Remote implementation and installation
- Network management server configuration
- Customer acceptance verification
- Custom on-site services

The CSI Group consists of the following two teams:

- **Converged Solutions Implementation Engineering**

The Converged Solutions Implementation Engineering (CSIE) team implements multi-site media gateway (G350/G650/G700) deployment projects for both voice and data design. The overall direction of the CSIE team is to bring the correct methodology to these complex deployments that span various regions and to provide continuity to the overall project from the voice and data implementation standpoint.

- **Data Network Implementation Engineering (formerly RNIS)**

The Data Network Implementation Engineering team implements and/or upgrades existing or new data networks. This team analyzes the customer's network design requirements and performance expectations, and then creates the hardware and software installation specification used to implement data devices including Cajun, VPN, Wireless LAN, Secure Gateways, Extreme, and multi-vendor data equipment.

The CSI Group provides support on a contract basis. You can purchase various implementation offers from the CSI Group in Tampa, Florida. See [Table 1: Customer-Accessible Resources](#) on page 13 for contact information.

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## Avaya Technical Service Organization (TSO)

The Avaya Technical Service Organization (TSO) provides support to the Avaya Integrated Management client teams, field technicians, and customers. The TSO will bill customers for support on a time and materials basis if the following conditions exist:

- Customers do not provide remote access.
- Customers do not have a current maintenance agreement.
- Customers do not procure and install the required systems and software as defined in the Integrated Management Services Support Plan.
- Customers request support that is outside the purchase agreement.

The TSO does not support hardware or software that customers purchase from third-party vendors.

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## Avaya Network Management Software Systems Support Group (NMSSS)

The Avaya Network Management Software Systems Support Group (NMSSS) in Tampa Bay, Florida answers customer calls about products in Avaya Integrated Management. NMSSS will either answer your questions directly or connect you with an associate who can answer questions about the products.

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## Customized Management Solutions for Avaya Integrated Management

The Integrated Management Product Team understands customer's needs and is focused on customer satisfaction. See [Table 1: Customer-Accessible Resources](#) on page 13 for contact information. The Product Team will assist customers with Avaya Integrated Management projects and will provide:

- **Project Management** — An Integrated Management project person will work with the customer to access configuration and customization requirements for any or all applications within each Avaya Integrated Management offer. If custom work is required, the evaluation will include a proposed statement of work and price. Note that this offer is *not* intended to provide installation for customers that choose to implement Integrated Management applications using Avaya Services or third-party implementation services.
- **Training** — Basic training can be performed remotely using an interactive medium to display the applications and a conference bridge for audio. On-site training can be customized to meet the customer's needs. Customized training will focus on application functionality that is relevant to the customer and provide focused knowledge transfer to facilitate application-specific training.

## Avaya Contact Information

[Table 1](#) and [Table 2](#) provide contact information that you may use if you need assistance during the process of installing and setting up Avaya Integrated Management. To access the links in [Table 2](#), you must be able to access the Avaya intranet.

**Table 1: Customer-Accessible Resources**

Resource	Contact Information
Avaya Support Center	<a href="http://www.avaya.com/support">http://www.avaya.com/support</a>
Network Management Software Systems Support (NMSSS)	+1 800 237-0016
Communications, Solutions, and Integration (CSI) Group of Software Services	+1 800 730-9108, prompt 3
Integrated Management Product Team	Send email to: AIMtraining@avaya.com
Toll Fraud Intervention	+1 800 643-2353, prompt 1

**Table 2: Avaya Internal Resources**

Resource	Contact Information
Avaya System Management Support	<a href="http://aem-support.dr.avaya.com">http://aem-support.dr.avaya.com</a>
Avaya Technology and Consulting (ATAC)	+1 888 297-4700, prompt 2,6 <a href="http://forum.avaya.com">http://forum.avaya.com</a> (requires a password)
Communications, Solutions, and Integration (CSI) Group of Software Services	<a href="http://associate2.avaya.com/sales_market/products/data-implementation-services/">http://associate2.avaya.com/sales_market/products/data-implementation-services/</a>
Integrated Management Services Support Plan	<a href="http://associate2.avaya.com/solution/support_plans/#Enterprise">http://associate2.avaya.com/solution/support_plans/#Enterprise</a>

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## Product Documentation

The latest version of Avaya Integrated Management product documentation, including this book, is available from the Avaya Support Web Site. To view or download these books from the Web, you must have access to the Internet, an Internet browser, and Adobe Acrobat Reader, version 5.0 or later. Adobe Acrobat Reader is provided on the Enterprise Network Management CDs and is also available from <http://www.adobe.com>. See [How to Access Books on the Web](#) for instructions on how to view or download these books.

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## How to Access Books on the Web

To view or download books from the Avaya Support Web Site, follow these steps:

1. Access <http://www.avaya.com/support>.
2. In the left column, click **System and Network Management**.
3. Scroll to **Integrated Management**, locate the product name, and click the link corresponding to the software release to display a list of available books for that product.

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## Tell Us What You Think!

Let us know how this book measured up to your expectations. Your opinions are crucial to helping us meet your needs! Send us your comments by mail, fax, or e-mail as follows:

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Lincroft, NJ 07738  
USA

Fax: Avaya Integrated Management Documentation Team  
+ 1 732 852-2469

E-mail: [document@avaya.com](mailto:document@avaya.com)  
Subject: Avaya Integrated Management Documentation Team

## Chapter 2: Overview

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### Enterprise Network Management

Enterprise Network Management is a Windows solution for Avaya Integrated Management. It is designed for small-to-medium size networks that run Windows platforms. It provides a complete converged solution that helps you manage your network through a common web-based user interface. The VoIP SystemView provides the ability to see your whole voice system structure and hierarchy. With this offer, you can administer and manage Avaya voice systems and Avaya converged devices (such as gateways and switches).

**Note:**

A Solaris version of the Network Management applications included in Avaya Integrated Management is provided in the Network Management for Solaris offer.

The Enterprise Network Management offer is for one non-introductory Avaya Communication Manager and provides one user license for Avaya Communication Manager administration tools and network management and provisioning tools for Avaya solutions. Customers can purchase two additional options—one that is for up to five Avaya Communication Managers and provides up to five user licenses, and another that is for up to ten Avaya Communication Managers and provides up to ten user licenses. In addition, an add-on option is available that provides unlimited client licenses for Avaya Site Administration and Avaya Voice Announcement Manager.

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### Enterprise Network Management CDs

Enterprise Network Management is provided on the following CDs:

- Network Management (see [Network Management Installation](#) on page 21)
- Administration Tools (see [Administration Tools Installation](#) on page 27)
- Network Provisioning (see [Network Provisioning Installation](#) on page 31)
- VoIP Monitoring Manager (90-day trial) (see [VoIP Monitoring Manager Installation](#) on page 35)

## Windows Server Requirements

[Table 3](#) provides the minimum requirements for the Windows server.

**Table 3: Windows Server Requirements**

Component	Required	Comments
Operating System	Microsoft Windows 2003 Standard Edition server, Microsoft Windows 2003 Enterprise Edition server, or Microsoft Windows 2000 server; VoIP Monitoring Manager can also be installed on Windows XP Professional	Only English operating systems are supported.
Processor	2.8 GHz Pentium® 4	A maximum of two processors is supported.
Hard Drive	40 GB	
Memory	1.5 GB RAM	
Network Connectivity	TCP/IP 100 Mbit Network Card	Only one network interface is supported. Dual network interface cards (NICs) or additional software network interfaces, such as a VPN interface, are not supported.
Modem	56K modem for remote access	
CD-ROM Drive		Required for installation.
Monitor	SVGA 1024 X 768 display	
SNMP Agent	The Simple Network Management Protocol (SNMP) Agent is the Windows Service that runs on your computer. It is provided with the Windows operating system CD but is not installed by default. When installing the VoIP Monitoring Manager, you will be prompted to install it, if it is not already installed.	
1 of 2		



**Table 3: Windows Server Requirements (continued)**

<b>Component</b>	<b>Required</b>	<b>Comments</b>
Extra Software	Anti-virus software pcAnywhere	Required for Avaya support. pcAnywhere is required for remote access by Avaya Services.
Web Browser	Internet Explorer 6.0	Required for access to the Integrated Management Launch Page and web-based clients.
Integration with HP OpenView Network Node Manager	HP OpenView 7.0.1 or HP OpenView 7.5. HP OpenView 7.5 requires a patch.	HP OpenView is not included on any Avaya Integrated Management CD. Customers must purchase, install, and maintain HP OpenView. While Avaya services support Integrated Management when installed over HP OpenView, they do not support the HP OpenView product itself.
Port (for Avaya VoIP Monitoring Manager)	The Avaya VoIP Monitoring Manager client and server software communicate using Java Remote Method Invocation (RMI), and use port 1099 on the machine on which the server is running. If this port is unavailable, the server will attempt to use the following ports: 49177, 51173, or 63006. Although it is unlikely that all of these ports will be in use on a single machine, ensure that at least one of these ports is available.	
<b>2 of 2</b>		

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## Windows Client PC Requirements

[Table 4](#) provides the requirements for the Windows client PC.

**Table 4: Windows Client PC Requirements**

Component	Required	Comments
Operating system	Microsoft Windows 2000, Windows XP Professional, or Windows 2003	
Processor	600 MHz Pentium®	
Hard Drive	1 GB	Required to install all of the client components.
Memory	256 MB RAM	
Monitor	SVGA 1024 X 768 display	
Network Connectivity	TCP/IP 10/100 Network Card	
Modem	56K Modem	May be required for remote access to the client PC.
CD-ROM Drive		Required for installation.
Web Browser	Internet Explorer 6.0	Required to access the Integrated Management Launch Page and web-based clients.

---

## Pre-Installation Tasks

Before installing Avaya Integrated Management products, you must complete the following pre-installation tasks.

1. Check the minimum hardware and software requirements for the following:
  - Windows server (see [Windows Server Requirements](#) on page 16).
  - Windows client PC (see [Windows Client PC Requirements](#) on page 18).
2. For upgrade installations, check that all previous sequential upgrades and/or major releases of Avaya Integrated Management products were installed before installing this release. If the wizard detects a software upgrade that is not sequential, the wizard will stop and display a message to install the skipped releases. The wizard will then abort the installation.
3. Carefully review *Avaya Integrated Management Implementation Guidelines*, document number 555-233-163. This document is available from the Avaya Support Web Site. (See [How to Access Books on the Web](#) on page 14.) This document describes server configuration requirements and provides pre-installation forms that must be completed before you begin installing the Avaya Integrated Management products. The pre-installation forms contain information that you will need to install the products, such as IP addresses, server domain names, and port addresses.
4. If you plan to run HP OpenView, you must install HP OpenView on the Windows server **before** you install the Network Management applications. When HP OpenView is present, the Network Management Console with System View is unavailable, and HP OpenView acts as the launch point for the applications and device managers.

**Note:**

Provisioning and Installation Manager cannot be used with HP OpenView integration.

5. If you have a large system (greater than 1000 simultaneous IP calls) or plan to keep historic VoIP Monitoring Manager data for long periods of time, it is recommended that you install VoIP Monitoring Manager on a separate server than that on which Network Management Console with System View is installed.

If you plan to install VoIP Monitoring Manager, but you do not plan on using the Network Management Console with System View, do not install Network Management Console with System View on the same server. VoIP Monitoring Manager performance is improved when fewer applications are using server resources.

6. To install the Network Management applications, you will need the IP addresses of the servers on which the following optional applications reside:
  - Avaya Fault and Performance Manager
  - Avaya Proxy Agent
  - MultiSite Administration
  - Integrated Management Database
  - Converged Communication
  - Seamless Converged Communication Across Networks
  - Message Networking
  - Polycom GMS
  - Extreme EPICenter
7. Carefully review this entire book before you start the installations on the servers and client PCs.

---

## Integrated Management Server

In Avaya Integrated Management Release 3.0, the server contains the IP addresses of all the products on the various servers. The server containing this information is called the Integrated Management server. You have the option of designating either the Linux server or the Windows server as the Integrated Management server.

During the installation, the wizard prompts you for the IP address of the Integrated Management server. This prompt appears during the installation of Windows server products, Windows client products, and Linux server products (in the System Management offer). You must enter the same IP address each time you are prompted for the IP address of the Integrated Management server. Without the correct IP address, users will be unable to access the Integrated Management Launch Page where they can launch products from their browser.

# Chapter 3: Network Management Installation

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## Network Management CD

The Network Management CD contains products that you install onto the Windows server. See [Windows Server Requirements](#) on page 16 for the minimum server requirements. Before installing this CD, also see [Pre-Installation Tasks](#) on page 19.

The Network Management CD contains the following applications:

- Network Management applications:
  - Avaya Network Management Console with System View
  - Avaya Network Configuration Manager
  - Avaya Software Update Manager
  - Avaya SMON Manager (90-day trial) – Customers can purchase the license key to activate the SMON Manager beyond the 90-day trial.
  - Avaya Address Manager
  - Avaya VLAN Manager
  - Avaya QoS Manager
  - Avaya Secure Access Administration
- Avaya Device Managers:
  - Avaya G350 Manager
  - Avaya P330/G700 Manager
  - Avaya C360 Manager
  - Avaya W310 Mobility Gateway
  - Avaya C460 Manager
  - Avaya P580/P882 Manager
  - Avaya AP 3/4/5/6 Manager
  - Avaya P130 Manager
- Additional components:
  - Avaya Integrated Management Launch Page (automatically installed when any application is installed)
  - Apache Web server
  - Adobe Acrobat Reader (required to view documents)

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## Avaya SMON Manager License Key

The Enterprise Network Management offer provides a 90-day trial version of Avaya SMON Manager. Customers have the option of purchasing the SMON Manager license key. This key is required to fully activate the SMON Manager beyond the 90-day trial period. The license key is available as an add-on option.

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## HP OpenView Integration

The Network Management applications provided in the Enterprise Network Management offer can integrate with HP OpenView on the Windows server. HP OpenView must be installed on the server *before* the Network Management applications are installed. HP OpenView 7.0.1 or 7.5 is required.

**Note:**

When installing over HP OpenView 7.5, you must download and install *Update 1 for Integrated Management 3.0* which is available on the Avaya Support Web site.

HP OpenView IP Telephony Smart Plug In (IPT-SPI) is available. It is supported only with HP OpenView Network Node Manager 7.5.

**Note:**

Avaya Services does not support HP OpenView, IPT-SPI, or other third party products.

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## Installing the Software

Use this procedure to install the Network Management applications and Device Managers on the Windows server. The procedure to install or to upgrade Network Management applications and Device Managers on the Windows server is generally the same.

1. Ask all users to log off the system.
2. Close all open windows and applications.
3. Insert the **Avaya Integrated Management, Network Management 3.0** CD into the CD-ROM drive.

The Avaya Integrated Management, Network Management window appears. It provides the main menu.

**Note:**

Install Acrobat Reader if it is not already installed on the computer.

4. Click **Install Server Products**.

The Welcome dialog box appears.

5. Click the **Next** button.

The Information dialog box appears.

6. Click the **Next** button.

The License dialog box appears.

7. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You must accept the terms of the license agreement in order to continue with the installation.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Avaya**.

8. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Select Features dialog box appears. This dialog box displays the applications and components you can install.

**Note:**

Required Components, Launch Page, and Network Management cannot be deselected. The wizard automatically installs these components.

9. Make sure the applications you want to install are selected. Perform the following steps:

- a. Click **Device Managers** and then click the **Change** button. The Select Subfeatures dialog box appears. By default, all Device Managers are selected.
- b. If you do not want to install all of the Device Managers, click the check box for each device manager you do not want to install to deselect it, and then click the **Continue** button.

10. Click the **Next** button.

The Enter VoIP Monitoring Manager Server IP Address dialog box appears.

11. Enter the IP address of the VoIP Monitoring Manager Server, and click the **Next** button.

The Enter IP Address dialog box appears.

12. Enter the IP address of the Avaya Integrated Management server, Avaya Fault and Performance Manager server and the Avaya Proxy Agent server, and then click the **Next** button.

The Enter IP Address dialog box appears.

13. Enter the IP address of the MultiSite Administration server, the Integrated Management Database server, and the Converged Communication server, and then click the **Next** button.

The Enter IP Address dialog box appears.

14. Enter the IP address of the Seamless Converged Communication Across Networks server, the Message Networking server, and the Polycom GMS server, and then click the **Next** button.

The Enter Extreme EpiCenter Server Information dialog box appears.

15. Enter the IP address and port number of the Extreme EPICenter server, and then click the **Next** button.

**Note:**

The default port is 8080.

The Setup Summary dialog box appears.

16. Review the setup summary, and then click the **Next** button.

The Apache HTTP Server Welcome dialog box appears.

17. Click the **Next** button.

The License Agreement dialog box appears.

18. Read the license agreement. If you accept the terms of the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

The Read This First dialog box appears.

19. Read about the Apache HTTP server, and then click the **Next** button.

The Server Information dialog box appears.

20. Enter the Network Domain, Server Name, and Administrator's E-mail Address. By default, Apache HTTP server programs and short cuts will be installed for all users. You can specify to install Apache HTTP server programs and short cuts for the current user only.

**Note:**

Network Domain, Server Name, and Administrator's E-mail fields must be completed. The Administrator's e-mail address allows the system to notify the administrator if problems occur during the Apache installation.

21. Click the **Next** button.

The Setup Type dialog box appears.



22. Confirm that **Typical** is selected, and then click the **Next** button.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Apache Group**.

23. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Ready to Install Program dialog box appears.

24. Click the **Install** button.

The Apache HTTP server installation status bar appears. When the installation is complete, the Installation Wizard Completed dialog box appears.

25. Click the **Finish** button to exit the Apache HTTP server installation wizard.

The installation status bar appears. When the installation is complete, the InstallShield Wizard Complete dialog box appears.

26. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the server.

You can access the products by selecting **Start > Programs > Avaya**. For more information about an Avaya Integrated Management product, access the online help after you start the application.

Initial configuration tasks must be performed the first time you use the Network Management Applications and Device Managers software. See *Avaya Integrated Management Release 3.0, Enterprise Network Management Configuration*, document number 14-300210, for procedures you must perform the first time you run the software.

**Note:**

Regularly check the Avaya Support Web Site for software updates.

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## Changing an Application Link on the Avaya Integrated Management Launch Page

A server configuration tool is available that allows you to change an application link on the Avaya Integrated Management Launch Page after an application has been installed. To do this, follow these steps:

1. Select **Start > Programs > Avaya > Configure Integrated Management**.

The Configure Utility dialog box appears.

2. To change the link of an Integrated Management application, click the **Avaya Integrated Management Information** tab and change the IP address of the application.
3. If you want the application links for Avaya Site Administration and Voice Announcement Manager to appear on the Avaya Integrated Management Launch Page, check the checkboxes for those applications.
4. Click the **Save** button.
5. To change the link of an adjunct application, click the **Adjunct Management Information** tab and change the IP address of the application.
6. If you want the application link for Mailbox Manager to appear on the Avaya Integrated Management Launch Page, check the checkbox for that application.
7. Click the **Save** button.
8. Click the **Exit** button when finished.

# Chapter 4: Administration Tools Installation

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## Administration Tools CD

The Administration Tools CD contains products that you install directly onto the Windows client PCs. See [Windows Client PC Requirements](#) on page 18 for the minimum PC requirements. Before installing this CD, also see [Pre-Installation Tasks](#) on page 19.

The Administration Tools CD contains the following applications:

- Avaya Site Administration
- Avaya Voice Announcement Manager
- Adobe Acrobat Reader (required to view documents)

---

## Installing the Software

The procedure to install or upgrade the contents of the Administration Tools CD is generally the same.

1. Close all open windows and applications.
2. Insert the **Avaya Integrated Management 3.0, Administration Tools CD** into the CD-ROM drive.

The Avaya Integrated Management Administration Tools 3.0 window appears. It provides a main menu.

**Note:**

Install Acrobat Reader if it is not already installed on the computer.

3. Click **Install Administration Tools**.

The Welcome dialog box appears.

4. Click the **Next** button.

The License Agreement dialog box appears.

5. Read the license types. If you accept the license types, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install the Avaya Integrated Management products unless you accept the license types.

The Choose Destination Location dialog box appears. By default, the applications will be installed in **c:\Program Files\Avaya**.

6. Perform one of the following steps:

- To install the applications in the default folder, click the **Next** button.
- To change the folder where the applications will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Select Features dialog box appears. This dialog box displays the applications and components you can install.

**Note:**

You must install the Required Components. You cannot deselect it.

7. Make sure the applications you want to install are selected, and then click the **Next** button.

The Enter Avaya Integrated Management Server IP Address dialog box appears.

8. Enter the IP address of the Avaya Integrated Management Launch Page server, and then click the **Next** button.

**Note:**

You are not required to enter the IP address of the Avaya Integrated Management Launch Page server. However, if you leave this blank and click the **Next** button, no link to the Launch Page will be provided on the PC.

The Start Copying Files dialog box appears.

9. Click the **Next** button.

The Setup Status message box appears showing the status of the installation. When the installation is complete, the InstallShield Wizard Complete dialog box appears.

10. Remove the CD from the drive, and then click the **Finish** button to restart the PC.

You can access the products by double clicking the desktop icon or selecting **Start > Programs > Avaya**. For more information about an Avaya Integrated Management product, access the online help after you start the application.

**Note:**

Regularly check the Avaya Support Web Site for software updates.

---

## Uninstalling the Software

This section describes how to uninstall Avaya Site Administration and Avaya Voice Announcement Manager.

To uninstall Avaya Site Administration and Avaya Voice Announcement Manager, follow these steps:

1. Select **Start>Control Panel**.

The Control Panel window appears.

2. Click on **Add or Remove Programs**.

The Add or Remove Programs window appears.

3. Click on **Avaya Integrated Management Client 3.0**.

4. Click the **Remove** button.

The Welcome dialog box appears.

5. Click the **Remove** option button.

6. Click the **Next** button.

A dialog box appears prompting you to confirm that you want to remove the application.

7. Click the **Yes** button.

The Setup Status message box appears. After the application is removed, the Maintenance Complete message box appears.

8. Click the **Finish** button to restart the PC now.



# Chapter 5: Network Provisioning Installation

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## Overview of Provisioning and Installation Manager

Provisioning and Installation Manager provides the capability to remotely configure devices, primarily Avaya media gateways, network-wide. It provides integrated network system views that ease centralized configuration tasks, especially provisioning and installing large numbers of gateways simultaneously.

Provisioning and Installation Manager enables you to:

- Create templates and device profiles to use later.
- Import and export device profiles and templates.
- Save templates and device profiles as an incomplete status or completed.
- Copy configuration templates and device profiles to create placeholders for different parameters.
- Create a template from scratch or import data from an electronic pre-installation worksheet (EPW).
- Distribute a template through bulk provisioning to a group of devices.
- Send a profile to a device and make a choice to distribute now, schedule for a later, or make pending.
- Store notes about templates and device profiles.

Provisioning and Installation Manager supports the following media gateways:

- Avaya G250
- Avaya G250–BRI
- Avaya G350

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## Pre-Installation Tasks

Before installing Provisioning and Installation Manager, you must complete the following pre-installation tasks.

1. Check the minimum hardware and software requirements for the following:
  - Windows server (see [Windows Server Requirements](#) on page 16).
  - Windows client PC (see [Windows Client PC Requirements](#) on page 18).
2. Because Provisioning and Installation Manager uses the same version of Apache and JRE as those installed by the Network Management CD, the following prerequisites must be met:
  - Provisioning and Installation Manager must be installed on the same Windows server as the Network Management CD, and the releases must be the same.
  - The following Integrated Management applications included on the Network Management CD must be installed on the Windows server before Provisioning and Installation Manager is installed:
    - Avaya Network Management Console with System View
    - Avaya Secure Access Administration

**Note:**

Provisioning and Installation Manager cannot be used with HP OpenView integration.

3. Carefully review *Avaya Integrated Management Implementation Guidelines*, document number 555-233-163. This document is available from the Avaya Support Web Site. (See [How to Access Books on the Web](#) on page 14.) This document describes server configuration requirements and provides pre-installation forms that must be completed before you begin installing the Avaya Integrated Management products. The pre-installation forms contain information that you will need to install the products, such as IP addresses, server domain names, and port addresses.
4. Carefully review this entire book before you start the installation.

**Note:**

If you are installing Provisioning and Installation Manager on a Windows 2003 server, ensure that the browser security settings are set to allow active scripting. See [Ensuring Browser Settings Allow Active Scripting](#) on page 33.



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## Ensuring Browser Settings Allow Active Scripting

If you are installing Provisioning and Installation Manager on a Windows 2003 server, be sure the server's browser security settings are set to allow active scripting. Active scripting must be enabled in order for all components in the Provisioning and Installation Manager graphical user interface (GUI) to appear when you launch the application.

To ensure browser settings are set to allow active scripting, follow these steps:

1. From the toolbar In your browser window, select **Tools > Internet Options**.
2. Click the **Security** tab and then the **Custom Level** button.
3. Scroll down to **Scripting** and ensure **Active Scripting** is enabled.

---

## Network Provisioning CD

The Network Provisioning CD contains the following applications:

- Provisioning and Installation Manager
- Adobe Acrobat Reader (required to view documents)

**Note:**

Provisioning and Installation Manager is intended for large branch office deployments. The Network Provisioning CD is not automatically shipped with the Enterprise Network Management offer. To receive this CD, contact your sales representative.

---

## Installing the Software

To install Provisioning and Installation Manager, follow these steps:

1. Ask all users to log off the system.
2. Close all open windows and applications on the Windows server.
3. Verify that the following Integrated Management applications are installed on the Windows server:
  - Avaya Network Management Console with System View
  - Avaya Secure Access Administration

4. Insert the **Avaya Integrated Management 3.0, Network Provisioning CD** into the CD-ROM drive.

The Avaya Integrated Management Provisioning and Installation Manager 3.0 window appears. It provides the main menu.

**Note:**

Install Acrobat Reader if it is not already installed on the computer.

5. Click **Install PIM 3.0**.

The Welcome dialog box appears.

6. Click the **Next** button.

The License dialog box appears.

7. Read the license agreement. To accept the license agreement, select **I accept the terms of the license agreement**, and then click the **Next** button.

The Tomcat Configuration dialog box appears.

8. Enter the Web access port for Tomcat, and click the **Next** button. The default port is 2020.

The Setup Summary dialog box appears.

9. Review the setup summary, and then click the **Next** button.

The installation status bar appears. When the installation is complete, the InstallShield Wizard Complete dialog box appears.

10. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the server.

You can access Provisioning and Installation Manager by selecting **Start > Programs > Avaya**. See *Avaya Integrated Management Release 3.0, Provisioning and Installation Manager Configuration*, document number 14-300286, for tasks that must be performed before you use Provisioning and Installation Manager for the first time. For more information about Provisioning and Installation Manager, access the online help after you start the application.

**Note:**

Regularly check the Avaya Support Web Site for software updates.

# Chapter 6: VoIP Monitoring Manager Installation

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## Overview of Avaya VoIP Monitoring Manager

Avaya Voice Over IP (VoIP) Monitoring Manager is a VoIP Quality of Service (QoS) monitoring tool. It enables you to monitor and review the quality of a call on an Avaya VoIP Network.

Avaya VoIP Monitoring Manager allows you to view QoS data experienced at the endpoints and during a session. This data displays in real-time or for previously active endpoints. With this information, you can begin to troubleshoot and isolate problems.

Avaya VoIP Monitoring Manager allows you to:

- **Search Endpoints.** You can search endpoints active from a specified time in the past or between a date range. Advanced search options enable you to narrow your search to match phone numbers, network addresses, or QoS levels.
- **View Reports.** Once you have a list of endpoints, you can select one or more endpoints in a session and view the associated reports. The reports display QoS data such as jitter, round trip time (RTT), and packet loss. This is particularly useful for monitoring gateways or locating problems at a particular endpoint.

Since you can view reports for endpoints involved in a session, this will assist you with determining problems that occur between two endpoints or in an isolated area of the network.

- **Export Reports.** You can export the report data to a comma separated value (csv) file. You can open this file in most database and spreadsheet programs such as Microsoft Excel. Exporting the data to a spreadsheet enables you to manipulate the data so you can create your own reports.
- **Generate Automatic Alarms.** You can generate Simple Network Management Protocol (SNMP) Traps/Alarms, which allow the VoIP Monitoring Manager to alert you when the jitter, RTT or packet loss reaches certain levels. You can routinely monitor the network and troubleshoot problems.

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## Avaya VoIP Monitoring Manager Components

The Avaya VoIP Monitoring Manager incorporates the Avaya VoIP Monitoring Manager Real-time Transport Control Protocol (RTCP) Monitor and the Avaya VoIP Monitoring Manager Server, which accepts connections from the Avaya VoIP Monitoring Manager Client. The server software must be installed on the network to work correctly. A Windows SNMP Agent must also be installed on the server.

VoIP Monitoring Manager also uses a database. During installation, the VoIP Monitoring Manager Integrated MSDE Database is installed by default. However, you can choose to install a different Microsoft SQL database.

The components and their relationship are described in more detail in the following sections.

---

### Avaya VoIP Monitoring Manager Server

The Avaya VoIP Monitoring Manager Server acts as a proxy between the MSDE database and the Avaya VoIP Monitoring Manager Client. It manages connectivity to the database and provides an interface to configure the Avaya VoIP Monitoring Manager RTCP Monitor. The server resides on the same PC as the RTCP Monitor. The database can reside on the same PC as the server and RTCP Monitor, or it can reside on a separate machine.

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### Avaya VoIP Monitoring Manager RTCP Monitor

The Avaya VoIP Monitoring Manager RTCP Monitor collects the RTCP packets sent from the Avaya endpoints and stores the information in a proprietary database. The RTCP Monitor also runs as a sub-agent of the Windows SNMP Agent. All the information contained in the database can be queried using Microsoft SQL.

---

### Avaya VoIP Monitoring Manager Client

The Avaya VoIP Monitoring Manager Client provides the graphical user interface (GUI). The client does not communicate with the RTCP Monitor, does not use the Windows SNMP service, and does not communicate with the database. The data that is displayed is gathered from the server. The client may be installed on the same machine as the server, or it may be installed on another machine on the network.

---

## Avaya VoIP Monitoring Manager Web Client

The Avaya VoIP Monitoring Manager Client can run as a Web application in a browser. This is useful if you only have the server installed. To run the Avaya VoIP Monitoring Manager Client as a Web application, the following requirements must be met:

- The server must be running a Web server. The Apache Web server is automatically installed on the server when the Avaya VoIP Monitoring Manager Server software is installed.
- The Web server must be configured to publish the file to the following VoIP Monitoring Manager installation path:

**C:\Program Files\Avaya\VoIP Monitoring Manager\jars\ClientApplet.htm**

**Note:**

The server installation will apply this configuration.

If you run the Web client, you will not have access to some of the features—such as connecting to a new server— that are available in the application.

---

## WebLM License Server

The WebLM License Server manages your licenses for Avaya Integrated Management products. It is required when you purchase the VoIP Monitoring Manager license key to activate VoIP Monitoring Manager beyond the 90-trial period. The WebLM License Server is not required to use the 90-day trial version.

The WebLM License Server application is provided on the VoIP Monitoring Manager CD. If you have purchased the VoIP Monitoring Manager license key, install the WebLM License Server. If the WebLM License Server is already installed on another server, you do not have to install it. During the installation, you will be prompted for the IP address of the server where the WebLM application is installed.

See [Avaya VoIP Monitoring Manager License Key](#) on page 44 for more information about VoIP Monitoring Manager licenses. See [Installing VoIP Monitoring Manager Licenses](#) on page 64 for instructions on how to install VoIP Monitoring Manager licenses.

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## Pre-Installation Tasks

Before installing Avaya VoIP Monitoring Manager, you must complete the following pre-installation tasks.

1. Check the minimum hardware and software requirements for the following:

- Windows server (see [Windows Server Requirements](#) on page 16).
- Windows client PC (see [Windows Client PC Requirements](#) on page 18).

**Note:**

The client and server software communicate using Java Remote Method Invocation (RMI), and use port 1099 on the machine on which the server is running. If this port is unavailable, the server will attempt to use the following ports: 49177, 51173, or 63006. Although it is unlikely that all of these ports will be in use on a single machine, ensure that at least one of these ports is available.

2. If you are upgrading from the previous release, check that all previous sequential upgrades and/or major releases of Avaya VoIP Monitoring Manager were installed before installing this release. If the wizard detects a software upgrade that is not sequential, the wizard will stop and display a message to install the skipped releases.

**Note:**

If you are upgrading Avaya VoIP Monitoring Manager and there are previous releases of other Integrated Management applications on the Windows server, you must either upgrade the other Integrated Management applications to this version of VoIP Monitoring Manager, or install the new version of VoIP Monitoring Manager on another Windows server.

3. If you have a large system (greater than 1000 simultaneous IP calls) or plan to keep historic VoIP Monitoring Manager data for long periods of time, it is recommended that you install VoIP Monitoring Manager on a separate server than that on which Network Management Console with System View is installed.

If you plan to install VoIP Monitoring Manager, but you do not plan on using the Network Management Console with System View, do not install Network Management Console with System View on the same server. VoIP Monitoring Manager performance is improved when fewer applications are using server resources.

4. Ensure that the Windows Simple Network Management Protocol (SNMP) Agent is installed on the Windows server and set to start automatically. (See [Ensuring Windows SNMP Service is Installed](#) on page 39.)
5. Check for valid Community IDs. (See [Checking for Valid Community ID](#) on page 40.)
6. Configure two Avaya Communication Manager administration forms—the IP Network Region form and the System Parameters IP-Options form. (See [Configuring the Avaya Communication Manager Administration Forms](#) on page 41.)
7. Identify the RTCP Listen Port for the Avaya Communication Manager. The default is 5005.

8. Carefully review *Avaya Integrated Management Implementation Guidelines*, document number 555-233-163. This document is available from the Avaya Support Web Site. (See [How to Access Books on the Web](#) on page 14.) This document describes server configuration requirements and provides pre-installation forms that must be completed before you begin installing the Avaya Integrated Management products. The pre-installation forms contain information that you will need to install the products, such as IP addresses, server domain names, and port addresses.
9. Complete the Ready Reckoner form. This form is available in the *Avaya Integrated Management Implementation Guidelines*, document number 555-233-163. Completing this form will help you predict the size of your database and therefore help you determine if the MSDE database will meet your needs. If not, a larger database such as Microsoft SQL can be installed. You can also use the Ready Reckoner form to adjust numbers, such as RTCP Reporting Intervals and History Days to determine how to set them to achieve the desired goal. Changing some numbers can help you obtain better data.
10. Carefully review this entire book before you start the installation.

---

## Ensuring Windows SNMP Service is Installed

The Windows SNMP Service must be installed on the VoIP Monitoring Manager Server. The Windows SNMP Service enables the RTCP Monitor to publish the data and is required for the VoIP Monitoring Manager Server software to function.

The Windows SNMP Service is provided on the Microsoft Windows operating system CD. It is not automatically installed when the Windows operating system is installed. Before installing the VoIP Monitoring Manager software, you must confirm that the Windows SNMP Service is installed on the VoIP Monitoring Manager server and set to start automatically. To do this, follow these steps:

1. Click **Start > Settings > Control Panel**.
2. Select **Administrative Tools**.
3. Select **Services** from the list in the **Name** column.
4. Scroll down to see if **SNMP Service** is installed. It should appear in the **Name** column and be set to start automatically.
5. If SNMP Service is not set to run automatically or does not appear, do one of the following:
  - If the SNMP service is installed but not set to run automatically, do the following:
    1. Right-click on **SNMP** and select **Properties** from the context menu.  
The SNMP Service Properties dialog box opens.
    2. Select **Automatic** from the **Startup Type** drop down list and click **OK**.

- If the Windows SNMP Service is not installed, you must install it from the Windows operating system CD.

**Note:**

When you install the SNMP Service from the Windows operating system CD, you must configure a community name with write-access. VoIP Monitoring Manager will attempt to initially connect using the community name, *private*. For security reasons, it is recommended that a different community name be chosen. (See [Checking for Valid Community ID](#) on page 40.)

---

## Checking for Valid Community ID

The Community ID assigned for your Windows SNMP Service must match the Community ID defined in the Server Options dialog box. By default, the Community ID with read-write privileges is *private*, but this may have been changed. Read-write privileges are required for loading, changing, and saving configuration options.

To check for a valid Community ID, follow these steps:

1. Click **Start > Settings > Control Panel**.
2. Select **Administrative Tools**.
3. Select **Services** from the list in the **Name** column.
4. Scroll down to **SNMP Service**.
5. Right-click on **SNMP Service** and select **Properties** from the context menu.
6. Click the **Security** tab.

The Accepted community names list box displays the Windows SNMP Service community names.

**Note:**

The Community ID in the Server Options dialog box must match the ID in the Windows SNMP Service list of Accepted community names.



---

## Configuring the Avaya Communication Manager Administration Forms

There are two Avaya Communication Manager administration forms—the System Parameters IP-Options form and the IP Network Region form—that you administer so that the server running Avaya Communication Manager sends RTCP reports to the RTCP Monitor. When you administer the System Parameters IP-Options form, the IP Network Region forms are set, by default, with the same values. You can then, optionally, make changes to a network region by changing the region's IP Network Region form.

Use the following SAT commands to make changes to the values on the forms:

- **change ip-network-region <x>** where x is a number from 1 to 250.
- **change system-parameter ip-options**

# Configuring the IP Network Region Form

Figure 1 shows an IP Network Region form. To configure this form, follow these steps:

- 1. Set the RTCP Reporting Enabled? field to y (yes).
- 2. Set the Use Default Server Parameters? field to y (yes). This indicates that this network region uses the default values specified on the System Parameters IP-Optionsform.

Figure 1: IP Network Region Form

12345678910111213141516171819

IP NETWORK REGION

Region: 1

Location:  Authoritative Domain:

Name:

MEDIA PARAMETERS

Codec Set:

UDP Port Min:

UDP Port Max:

DIFFSERV/TOS PARAMETERS

Call Control PHB Value:

Audio PHB Value:

Video PHB Value:

802.1P/Q PARAMETERS

Call Control 802.1p Priority:

Audio 802.1p Priority:

H.323 IP ENDPOINTS

H.323 Link Bounce Recovery?

Idle Traffic Interval (sec):

Keep-Alive Interval (sec):

Keep-Alive Count:

Intra-region IP-IP Direct Audio:

Inter-region IP-IP Direct Audio:

IP Audio Hairpinning?

RTCP Reporting Enabled?

RTCP MONITOR SERVER PARAMETERS

Use Default Server Parameters?

AUDIO RESOURCE RESERVATION PARAMETERS

RSUP Enabled?

In some cases, you may not want to set the Default Parameters to yes. Set the field to n (no) and specify the IP address of the Windows PC running the server for that network region.

An example of when you might not want to set the Default Parameters to yes is if you have multiple servers installed on a large system in order to reduce the network traffic between a set of endpoints and the RTCP Monitor (e.g. low bandwidth link between endpoints in one network region and a remote RTCP Monitor). The network traffic resulting from RTCP reports being sent from the endpoints to the RTCP Monitor is usually low, less than 40 bytes per second per currently active VoIP call (RTP session). Therefore, it is usually unnecessary to have multiple RTCP Monitors.

If multiple Servers are installed on the system then the endpoints in each network region can be configured to send their RTCP reports to different RTCP Monitors.

## Configuring the System Parameters IP-Options Form

[Figure 2](#) shows a Systems Parameters IP-Options form. To configure this form, locate the heading **RTCP MONITOR SERVER** and follow these steps:

1. Set the **Default Server IP Address** to the address of the Windows PC running the VoIP Monitoring Manager Server.
2. Set the **Default RTCP Report Period (secs)** to 10. This will reduce the amount of data that needs to be stored and thereby help ensure the MSDE or MSSQL database does not reach its limit too quickly.

**Figure 2: System Parameters IP-Options Form**

1 | 2 |

**IP-OPTIONS SYSTEM PARAMETERS**

**IP MEDIA PACKET PERFORMANCE THRESHOLDS**

Roundtrip Propagation Delay (ms)	High: 800	Low: 400
Packet Loss (%)	High: 40	Low: 15
Ping Test Interval (sec):	20	
Number of Pings Per Measurement Interval:	10	

**RTCP MONITOR SERVER**

Default Server IP Address: . . .

Default Server Port: 5005

Default RTCP Report Period(secs): 5

**AUTOMATIC TRACE ROUTE ON**

Link Failure? ☒

**H.248 MEDIA GATEWAY**

Link Loss Delay Timer (min): 5

**H.323 IP ENDPOINT**

Link Loss Delay Timer (min): 5

Primary Search Time (sec): 75

Periodic Registration Timer (min): 20

---

## VoIP Monitoring Manager CD

The VoIP Monitoring Manager CD contains the following applications:

- VoIP Monitoring Manager Client (90-day trial version)
- VoIP Monitoring Manager Server (90-day trial version)
- WebLM License Server (optional component required to fully activate VoIP Monitoring Manager beyond the 90-day trial period; not required for the 90-day trial version)
- Adobe Acrobat Reader (required to view documents)

**Note:**

The VoIP Monitoring Manager Server software must be installed on a machine connected to the network. The VoIP Monitoring Manager Client software may be installed on the same machine as the server, or it may be installed on another machine on the network.

---

## Avaya VoIP Monitoring Manager License Key

The Monitoring Management offer provides a 90-day trial version of VoIP Monitoring Manager. Customers have the option of purchasing the VoIP Monitoring Manager license key. This key is required to fully activate the VoIP Monitoring Manager beyond the 90-day trial period. The license key is available as an add-on option in the Avaya Integrated Management offers. When a license key is purchased, an instance of WebLM License Server is required to manage the license key. See [WebLM License Server](#) on page 37 for more information about the WebLM License Server. See [Installing VoIP Monitoring Manager Licenses](#) on page 64 for instructions on how to install VoIP Monitoring Manager licenses.

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## Microsoft SQL 2000 Database

During VoIP Monitoring Manager installation, you can install your own database if you do not want to install the MSDE database provided on the VoIP Monitoring Manager CD. If you are installing Microsoft SQL 2000 database, it is recommended that you install it on the same server as VoIP Monitoring Manager to ensure optimal performance.

If VoIP Monitoring Manager with the MSDE database is already installed on the server, and you plan to install the Microsoft SQL 2000 database on the same server, you must uninstall the MSDE database.

To uninstall MSDE, follow these steps:

1. Click **Start > Settings > Control Panel**.
2. Select **Add or Remove Programs**.
3. Click **Microsoft SQL Server Desktop Engine**.
4. Click the **Remove** button.

---

## Installing the Software

Use this procedure to install VoIP Monitoring Manager Server, VoIP Monitoring Manager Client, and WebLM Server on the Windows server. The procedure to install or upgrade Avaya VoIP Monitoring Manager is generally the same.

**Note:**

If you are upgrading Avaya VoIP Monitoring Manager and there are previous releases of other Integrated Management applications on the Windows server, you must either upgrade the other Integrated Management applications to this version of Avaya VoIP Monitoring Manager, or install the new version of Avaya VoIP Monitoring Manager on another Windows server.

1. Ask all users to log off the system.
2. Close all open windows and applications.
3. Insert the **Avaya Integrated Management, VoIP Monitoring Manager 3.0** CD into the CD-ROM drive.

The Avaya Integrated Management VoIP Monitoring Manager window appears. It provides the main menu.

**Note:**

Install Acrobat Reader if it is not already installed on the computer.

4. Click **Install Monitoring Server**.

The Welcome dialog box appears.

5. Click the **Next** button.

The Information dialog box appears.

6. Click the **Next** button.

The License dialog box appears.

7. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install VoIP Monitoring Manager unless you accept the license agreement.

The Choose Destination Location dialog box appears. By default, the application will be installed in **c:\Program Files\Avaya**.

8. Perform one of the following steps:

- To install the applications in the default folder, click the **Next** button.
- To change the folder where the applications will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Select Features dialog box appears. This dialog box displays the applications you can install. See [WebLM License Server](#) on page 37 for information about the WebLM application.

9. Make sure the applications you want to install are selected, and click the **Next** button.

The Enter Avaya Integrated Management Server IP Address dialog box appears.

10. Enter the IP Address of your Avaya Integrated Management Launch Page Server, and then click the **Next** button. One of the following appears:

- If IIS (Microsoft's Web Server) is detected on the server, the Setup Type dialog box appears. IIS will cause a conflict with the Apache HTTP Server. You can change the port IIS runs on or turn IIS off. To do this, perform one of the following steps:
  - To change the port that IIS runs on, select **Change the port that IIS runs on**, and click the **Next** button.

The IIS Port Change dialog box appears.

- Enter a new port for IIS to run on, and click the **Next** button.

The Enter VoIP Monitoring Manager Server Port dialog box appears. Go to Step [11](#).

- To turn IIS off, select **Set IIS WWW Publishing Service to Manual**, and click the **Next** button.

The Enter VoIP Monitoring Manager Server Port dialog box appears. Go to Step [11](#).

- If IIS (Microsoft's Web Server) is not detected on this server, the Enter VoIP Monitoring Manager Server Port dialog box appears. Go to Step [11](#).

11. Enter the number of the RTCP Listen Port, and then click the **Next** button.

**Note:**

The RTCP Listen Port must be the same as that administered on the Avaya Communication Manager Server. The default is 5005. See [Configuring the Avaya Communication Manager Administration Forms](#) on page 41.

The Install New Database or Use an Existing Database dialog box appears.

12. Based on whether you are installing VoIP Monitoring Manager on a Windows 2000, Windows 2003, or Windows XP Professional server; or installing VoIP Monitoring Manager and using a database already installed, go to one of the following sections:
  - If you want to install the MSDE database that is included on the VoIP Monitoring Manager CD and you have a Windows 2000 server, go to [Installing VoIP Monitoring Manager and MSDE on a Windows 2000 Server](#) on page 47.
  - If you want to install the MSDE database that is included on the VoIP Monitoring Manager CD and you have a Windows 2003 or Windows XP Professional server, go to [Installing VoIP Monitoring Manager and MSDE on a Windows 2003 or Windows XP Professional Server](#) on page 51.
  - If you want to use a database that is already installed, go to [Installing VoIP Monitoring Manager With a Database Already Installed](#) on page 54. This procedure is the same for Windows 2000, Windows 2003, or Windows XP Professional servers.

---

## Installing VoIP Monitoring Manager and MSDE on a Windows 2000 Server

Use this procedure if you want to install the MSDE database that is provided on the VoIP Monitoring Manager CD and you have a Windows 2000 server. This procedure also includes installation of the WebLM server application.

1. See [Installing the Software](#) on page 45 and perform Steps 1 through 11. At Step 11, the following dialog box appears:

The Install New Database or Use an Existing Database dialog box appears.

2. Select **Install MSDE from this CD**.

A message appears stating MSDE will automatically be installed after VoIP Monitoring Manager is installed and the computer reboots.

3. Click the **OK** button.

The Database Login Information dialog box appears. The MSDE Administrative login is provided.

4. Enter the MSDE Administrator password, confirm the password, and then click the **Next** button.

**Note:**

After you set the MSDE Administrator password, make a note of it in a secure location. Do not change the MSDE Administrator login provided.

- If you are installing the WebLM License Server, the Enter WebLM Port Information dialog box appears. Go to Step [5](#).
- If you are not installing the WebLM License Server, the Enter WebLM Server Information dialog box appears. Perform one of the following steps:

## VoIP Monitoring Manager Installation

- If you have licenses to activate VoIP Monitoring Manager beyond the 90-day trial period, enter the IP address of the server on which the WebLM License Server application is installed, and then click the **Next** button.

The Enter WebLM Port Information dialog box appears. Go to Step [5](#).

- If you do not have licenses for VoIP Monitoring Manager, leave the IP address field blank, and then click the **Next** button.

A message appears stating you have not entered a WebLM IP address and VoIP Monitoring Manager will run as an evaluation version for 90 days. Click the **OK** button.

The Setup Summary dialog box appears. Go to Step [6](#).

5. Enter the port number on which the WebLM License Server should run, and then click the **Next** button. The default port is 3999.

The Setup Summary dialog box appears.

6. Review the setup information, and then click the **Next** button.

The Apache HTTP Server Welcome dialog box appears.

7. Click the **Next** button.

The Apache License Agreement dialog box appears.

8. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

### **Note:**

You cannot install Apache software unless you accept the license agreement.

The Apache information dialog box appears.

9. Read about the Apache HTTP server, and then click the **Next** button.

The Server Information dialog box appears.

10. Enter the Network Domain, Server Name, and Administrator's e-mail address. By default, Apache HTTP server programs and short cuts will be installed for all users. Choose to install only for current user if desired.

### **Note:**

Network Domain, Server Name, and Administrator's e-mail fields must be completed. The Administrator's e-mail address allows the system to notify the administrator if problems occur during the Apache installation.

11. Click the **Next** button.

The Setup Type dialog box appears.

12. Confirm that **Typical** is selected, and then click the **Next** button.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Apache Group**.



13. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Ready to Install Program dialog box appears.

14. Click the **Install** button.

The installation status bar for the Apache HTTP server appears. When the installation is complete, the Installation Wizard Completed dialog box appears.

15. Click the **Finish** button.

The installation status bar for JRE appears. When the installation is complete, one of the following dialog boxes appears:

- If you are installing the WebLM License Server, the Java 2 License Agreement dialog box appears. Go to Step [16](#).
- If you are not installing the WebLM License Server, the Installation Wizard Completed dialog box appears. Go to Step [20](#).

16. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Java 2 software unless you accept the license agreement.

The Custom Setup window appears. By default **Development Tools** is selected.

17. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Browser Registration dialog box appears.

18. Click the **Install** button.

The installation status bar for Java appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

19. Click the **Finish** button.

A message appears stating Java Development Kit will be used to install Apache Tomcat.

20. Click the **OK** button.

The installation status bar for VoIP Monitoring Manager appears. When the installation is complete, a message appears stating MSDE will automatically be installed after you reboot the computer.

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21. Click the **OK** button.

The InstallShield Wizard Completed dialog box appears.

22. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the server.

After the server has restarted, the InstallShield Wizard for MSDE appears.

23. Click the **Next** button.

A message appears stating the MSDE database will be installed on Windows with Mixed Mode Security.

24. Click the **OK** button.

The Ready to Install the Program dialog box appears.

25. Click the **Install** button.

The MSDE Service Pack Installation Steps dialog box appears.

26. Download the latest service pack for MSDE as instructed.

**Note:**

It is recommended that you complete the VoIP Monitoring Manager installation, and then download and install the MSDE service pack.

27. Click the **Next** button.

A message appears stating that this download is for new installations only. If you already have an earlier version of MSDE and would like to upgrade to MSDE 2000 Service Pack 3a (SP3a), you will need to use the SQL Server 2000 SP3a download.

28. Click the **OK** button.

The installation status bar appears. When the installation is complete, the InstallShield Wizard Complete dialog box appears.

29. Click the **Finish** button to restart the server.

You can access VoIP Monitoring Manager by selecting **Start > Programs > Avaya > VoIP Monitoring Manager**. For more information about VoIP Monitoring Manager, access the online help after you start the application.

Initial configuration tasks must be performed the first time you use VoIP Monitoring Manager. See *Avaya VoIP Monitoring Manager Release 3.0 Configuration*, document number 555-233-510, for procedures you must perform the first time you run the software.

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## Installing VoIP Monitoring Manager and MSDE on a Windows 2003 or Windows XP Professional Server

Use this procedure if you want to install the MSDE database that is provided on the VoIP Monitoring Manager CD and you have a Windows 2003 or Windows XP Professional server. This procedure also includes installation of the WebLM server application.

1. See [Installing the Software](#) on page 45 and perform Steps 1 through 11. At Step 11, the following dialog box appears:

The Install New Database or Use an Existing Database dialog box appears.

2. Select **Install MSDE from this CD**.

A message appears stating the MSDE database will be installed on Windows with Mixed Mode Security.

3. Click the **OK** button.

The Database Login Information dialog box appears. The MSDE Administrative login is provided.

4. Enter the MSDE Administrator password, confirm the password, and then click the **Next** button.

**Note:**

After you set the MSDE Administrator password, make a note of it in a secure location. Do not change the MSDE Administrator login provided.

- If you are installing the WebLM License Server, the Enter WebLM Port Information dialog box appears. Go to Step [5](#).
- If you are not installing the WebLM License Server, the Enter WebLM Server Information dialog box appears. Perform one of the following steps:
  - If you have licenses to activate VoIP Monitoring Manager beyond the 90-day trial period, enter the IP address of the server on which the WebLM License Server application is installed, and then click the **Next** button.

The Enter WebLM Port Information dialog box appears. Go to Step [5](#).

- If you do not have licenses for VoIP Monitoring Manager, leave the IP address field blank, and then click the **Next** button.

A message appears stating you have not entered a WebLM IP address and VoIP Monitoring Manager will run as an evaluation version for 90 days. Click the **OK** button.

The Setup Summary dialog box appears. Go to Step [6](#).

5. Enter the port number on which the WebLM License Server should run, and then click the **Next** button. The default port is 3999.

The Setup Summary dialog box appears.

6. Review the setup information, and then click the **Next** button.

The MSDE Service Pack Installation Steps dialog box appears.

7. Download the latest service pack for MSDE as instructed.

**Note:**

It is recommended that you complete the VoIP Monitoring Manager installation, and then download and install the MSDE service pack.

8. Click the **Next** button.

A message appears stating that this download is for new installations only. If you already have an earlier version of MSDE and would like to upgrade to MSDE 2000 Service Pack 3a (SP3a), you will need to use the SQL Server 2000 SP3a download.

9. Click the **OK** button.

The Apache HTTP Server Welcome dialog box appears.

10. Click the **Next** button.

The Apache License Agreement dialog box appears.

11. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Apache software unless you accept the license agreement.

The Apache information dialog box appears.

12. Read about the Apache HTTP server, and then click the **Next** button.

The Server Information dialog box appears.

13. Enter the Network Domain, Server Name, and Administrator's e-mail address. By default, Apache HTTP server programs and short cuts will be installed for all users. Choose to install only for current user if desired.

**Note:**

Network Domain, Server Name, and Administrator's e-mail fields must be completed. The Administrator's e-mail address allows the system to notify the administrator if problems occur during the Apache installation.

14. Click the **Next** button.

The Setup Type dialog box appears.

15. Confirm that **Typical** is selected, and then click the **Next** button.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Apache Group**.

16. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Ready to Install Program dialog box appears.

17. Click the **Install** button.

The installation status bar for the Apache HTTP server appears. When the installation is complete, the Installation Wizard Completed dialog box appears.

18. Click the **Finish** button.

The installation status bar for JRE appears. When the installation is complete, one of the following dialog boxes appears:

- If you are installing the WebLM License Server, the Java 2 License Agreement dialog box appears. Go to Step [19](#).
- If you are not installing the WebLM License Server, the Installation Wizard Completed dialog box appears. Go to Step [23](#).

19. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Java 2 software unless you accept the license agreement.

The Custom Setup window appears. By default **Development Tools** is selected.

20. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Browser Registration dialog box appears.

21. Click the **Install** button.

The installation status bar for Java appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

22. Click the **Finish** button.

A message appears stating Java Development Kit will be used to install Apache Tomcat.

23. Click the **OK** button.

The installation status bar for MSDE appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

24. Click the **OK** button.

The installation status bar for VoIP Monitoring Manager appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

25. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the server.

You can access VoIP Monitoring Manager by selecting **Start > Programs > Avaya > VoIP Monitoring Manager**. For more information about VoIP Monitoring Manager, access the online help after you start the application.

Initial configuration tasks must be performed the first time you use VoIP Monitoring Manager. See *Avaya VoIP Monitoring Manager Release 3.0 Configuration*, document number 555-233-510, for procedures you must perform the first time you run the software.

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## Installing VoIP Monitoring Manager With a Database Already Installed

Use this procedure if you want to use a local or remote database that is already installed. The procedure is the same for Windows 2000, Windows 2003, or Windows XP Professional servers. This procedure also includes installation of the WebLM server application.

1. See [Installing the Software](#) on page 45 and perform Steps 1 through 11. At Step 11, the following dialog box appears:

The Install New Database or Use an Existing Database dialog box appears.

2. Select **Use a database currently installed**.

The Where is Your Database Located? dialog box appears.

3. Based on whether the database is installed on this server or another server, go to one of the following sections:
  - If the database is installed on this machine, go to [Database is Installed on This Machine](#) on page 54.
  - If the database is installed on another machine, go to [Database is Installed on Another Machine](#) on page 58.

### Database is Installed on This Machine

Use this procedure if the database you are using is installed on this server.

1. See [Installing VoIP Monitoring Manager With a Database Already Installed](#) on page 54 and perform Steps 1 and 2. At Step 2, the following dialog box appears:

The Where is Your Database Located? dialog box appears.

2. Select **Locally, on this machine**, and click the **Next** button.

The Does the Database Need to be Initialized? dialog box appears.

3. Perform one of the following steps:

- If yes, select **Yes, it needs to be initialized**, and click the **Next** button.

The Configure Existing Database dialog box appears. Back up the existing database as recommended. After the database is backed up, click the **Next** button.

- If you are installing the WebLM License Server, the Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you are not installing the WebLM License Server, the Enter WebLM Server Information dialog box appears. Perform one of the following steps:

- If you have licenses to activate VoIP Monitoring Manager beyond the 90-day trial period, enter the IP address of the server on which the WebLM License Server application is installed, and then click the **Next** button.

The Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you do not have licenses for VoIP Monitoring Manager, leave the IP address field blank, and then click the **Next** button.

A message appears stating you have not entered a WebLM IP address and VoIP Monitoring Manager will run as an evaluation version for 90 days. Click the **OK** button.

The Setup Summary dialog box appears. Go to Step [5](#).

- If no, select **No, it has existing VoIP data**, and click the **Next** button.

The Upgrade Existing Database on Local Machine dialog box appears. Back up the existing database as recommended. After the database is backed up, click the **Next** button.

- If you are installing the WebLM License Server, the Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you are not installing the WebLM License Server, the Enter WebLM Server Information dialog box appears. Perform one of the following steps:

- If you have licenses to activate VoIP Monitoring Manager beyond the 90-day trial period, enter the IP address of the server on which the WebLM License Server application is installed, and then click the **Next** button.

The Enter WebLM Port Information dialog box appears. Go to Step [4](#).

## VoIP Monitoring Manager Installation

- If you do not have licenses for VoIP Monitoring Manager, leave the IP address field blank, and then click the **Next** button.

A message appears stating you have not entered a WebLM IP address and VoIP Monitoring Manager will run as an evaluation version for 90 days. Click the **OK** button.

The Setup Summary dialog box appears. Go to Step [5](#).

4. Enter the port number on which the WebLM License Server should run, and click the **Next** button. The default is 3999.

The Setup Summary dialog box appears.

5. Review the setup information, and then click the **Next** button.

The Apache HTTP Server Welcome dialog box appears.

6. Click the **Next** button.

The Apache License Agreement dialog box appears.

7. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Apache software unless you accept the license agreement.

The Apache information dialog box appears.

8. Read about the Apache HTTP server, and then click the **Next** button.

The Server Information dialog box appears.

9. Enter the Network Domain, Server Name, and Administrator's e-mail address. By default, Apache HTTP server programs and short cuts will be installed for all users. Choose to install only for current user if desired.

**Note:**

Network Domain, Server Name, and Administrator's e-mail fields must be completed. The Administrator's e-mail address allows the system to notify the administrator if problems occur during the Apache installation.

10. Click the **Next** button.

The Setup Type dialog box appears.

11. Confirm that **Typical** is selected, and then click the **Next** button.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Apache Group**.



12. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Ready to Install Program dialog box appears.

13. Click the **Install** button.

The installation status bar for the Apache HTTP server appears. When the installation is complete, the Installation Wizard Completed dialog box appears.

14. Click the **Finish** button.

The installation status bar for JRE appears. When the installation is complete, one of the following dialog boxes appears:

- If you are installing the WebLM License Server, the Java 2 License Agreement dialog box appears. Go to Step [15](#).
- If you are not installing the WebLM License Server, the Installation Wizard Completed dialog box appears. Go to Step [19](#).

15. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Java 2 software unless you accept the license agreement.

The Custom Setup window appears. By default **Development Tools** is selected.

16. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Browser Registration dialog box appears.

17. Click the **Install** button.

The installation status bar for Java appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

18. Click the **Finish** button.

A message appears stating Java Development Kit will be used to install Apache Tomcat.

19. Click the **OK** button.

The installation status bar for VoIP Monitoring Manager appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

20. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the server.

You can access VoIP Monitoring Manager by selecting **Start > Programs > Avaya > VoIP Monitoring Manager**. For more information about VoIP Monitoring Manager, access the online help after you start the application.

Initial configuration tasks must be performed the first time you use VoIP Monitoring Manager. See *Avaya VoIP Monitoring Manager Release 3.0 Configuration*, document number 555-233-510, for procedures you must perform the first time you run the software.

### Database is Installed on Another Machine

Use this procedure if the database you are using is installed on another server.

1. See [Installing VoIP Monitoring Manager With a Database Already Installed](#) on page 54 and perform Steps 1 and 2. At Step 2, the following dialog box appears:

The Where is Your Database Located? dialog box appears.

2. Select **Remotely, on another machine**, and click the **Next** button.

The Does the Database Need to be Initialized? dialog box appears.

3. Perform one of the following steps:

- If yes, select **Yes, it needs to be initialized**, and click the **Next** button.

The Enter the Database Server IP Address dialog box appears.

- a. Enter the IP Address of your database location, and click the **Next** button.

The Configure Existing Database dialog box appears.

- b. Back up the existing database as recommended. After the database is backed up, click the **Next** button.

- If you are installing the WebLM License Server, the Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you are not installing the WebLM License Server, the Enter WebLM Server Information dialog box appears. Perform one of the following steps:

- If you have licenses to activate VoIP Monitoring Manager beyond the 90-day trial period, enter the IP address of the server on which the WebLM License Server application is installed, and then click the **Next** button.

The Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you do not have licenses for VoIP Monitoring Manager, leave the IP address field blank, and then click the **Next** button.

A message appears stating you have not entered a WebLM IP address and VoIP Monitoring Manager will run as an evaluation version for 90 days. Click the **OK** button.

The Setup Summary dialog box appears. Go to Step [5](#).

- If no, select **No, it has existing VoIP data**, and click the **Next** button.

The Enter the Database Server IP Address dialog box appears.

- a. Enter the IP Address of your database location, and click the **Next** button.

The Upgrade Existing Database on a Remote Machine dialog box appears.

- b. Back up the existing database on remote machine as recommended. After the database is backed up, click the **Next** button.

- If you are installing the WebLM License Server, the Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you are not installing the WebLM License Server, the Enter WebLM Server Information dialog box appears. Perform one of the following steps:

- If you have licenses to activate VoIP Monitoring Manager beyond the 90-day trial period, enter the IP address of the server on which the WebLM License Server application is installed, and then click the **Next** button.

The Enter WebLM Port Information dialog box appears. Go to Step [4](#).

- If you do not have licenses for VoIP Monitoring Manager, leave the IP address field blank, and then click the **Next** button.

A message appears stating you have not entered a WebLM IP address and VoIP Monitoring Manager will run as an evaluation version for 90 days. Click the **OK** button.

The Setup Summary dialog box appears. Go to Step [5](#).

4. Enter the port number on which the WebLM License Server should run, and click the **Next** button. The default is 3999.

The Setup Summary dialog box appears.

5. Review the setup information, and then click the **Next** button.

The Apache HTTP Server Welcome dialog box appears.

6. Click the **Next** button.

The Apache License Agreement dialog box appears.

7. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Apache software unless you accept the license agreement.

The Apache information dialog box appears.

8. Read about the Apache HTTP server, and then click the **Next** button.

The Server Information dialog box appears.

9. Enter the Network Domain, Server Name, and Administrator's e-mail address. By default, Apache HTTP server programs and short cuts will be installed for all users. Choose to install only for current user if desired.

**Note:**

Network Domain, Server Name, and Administrator's e-mail fields must be completed. The Administrator's e-mail address allows the system to notify the administrator if problems occur during the Apache installation.

10. Click the **Next** button.

The Setup Type dialog box appears.

11. Confirm that **Typical** is selected, and then click the **Next** button.

The Choose Destination Location dialog box appears. By default, the files will be installed in **c:\Program Files\Apache Group**.

12. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Ready to Install Program dialog box appears.

13. Click the **Install** button.

The installation status bar for the Apache HTTP server appears. When the installation is complete, the Installation Wizard Completed dialog box appears.

14. Click the **Finish** button.

The installation status bar for JRE appears. When the installation is complete, one of the following dialog boxes appears:

- If you are installing the WebLM License Server, the Java 2 License Agreement dialog box appears. Go to Step [15](#).
- If you are not installing the WebLM License Server, the Installation Wizard Completed dialog box appears. Go to Step [19](#).

15. Read the license agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install Java 2 software unless you accept the license agreement.

The Custom Setup window appears. By default **Development Tools** is selected.

16. Perform one of the following steps:

- To install the files in the default folder, click the **Next** button.
- To change the folder where the files will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Browser Registration dialog box appears.

17. Click the **Install** button.

The installation status bar for Java appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

18. Click the **Finish** button.

A message appears stating Java Development Kit will be used to install Apache Tomcat.

19. Click the **OK** button.

The installation status bar for VoIP Monitoring Manager appears. When the installation is complete, the InstallShield Wizard Completed dialog box appears.

20. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the server.

You can access VoIP Monitoring Manager by selecting **Start > Programs > Avaya > VoIP Monitoring Manager**. For more information about VoIP Monitoring Manager, access the online help after you start the application.

Initial configuration tasks must be performed the first time you use VoIP Monitoring Manager. See *Avaya VoIP Monitoring Manager Release 3.0 Configuration*, document number 555-233-510, for procedures you must perform the first time you run the software.

---

## Installing the Client Software

Use this procedure to install VoIP Monitoring Manager Client on the Windows server or another PC. The procedure to install or upgrade Avaya VoIP Monitoring Manager Client is generally the same. The VoIP Monitoring Manager Client may be installed on the same machine as the VoIP Monitoring Manager Server, or it may be installed on another machine on the network.

1. Ask all users to log off the system.
2. Close all open windows and applications.
3. Insert the **Avaya Integrated Management, VoIP Monitoring Manager 3.0** CD into the CD-ROM drive.

The Avaya Integrated Management, VoIP Monitoring Manager window appears. It provides the main menu.

**Note:**

Install Acrobat Reader if it is not already installed on the computer.

4. Click **Install Monitoring Server**.

The Welcome dialog box appears.

5. Click the **Next** button.

The Information dialog box appears.

6. Click the **Next** button.

The License dialog box appears.

7. Read the license type agreement. If you accept the license agreement, click the **I accept the terms of the license agreement** option button, and then click the **Next** button.

**Note:**

You cannot install VoIP Monitoring Manager unless you accept the license agreement.

The Choose Destination Location dialog box appears. By default, the application will be installed in **c:\Program Files\Avaya**.

8. Perform one of the following steps:

- To install the applications in the default folder, click the **Next** button.
- To change the folder where the applications will be installed, click the **Change** button, specify the folder you want to use, and then click the **Next** button.

The Select Features dialog box appears. By default, all components are selected.

9. Click the check boxes for **VoIP Monitoring Manager Server** and **WebLM Server** to deselect them. Only **VoIP Monitoring Manager Client** should be selected. Click the **Next** button.

The Enter Avaya Integrated Management Server IP Address dialog box appears.

10. Enter the IP Address of your Avaya Integrated Management Launch Page Server, and then click the **Next** button.

The Enter VoIP Monitoring Manager Server IP Address dialog box appears.

11. Enter the IP address of your VoIP Monitoring Manager Server, and click the **Next** button.

The Setup Summary dialog box appears.

12. Review the setup information and then click the **Next** button.

The installation status bar appears. When the installation is complete, the InstallShield Wizard Complete dialog box appears.

13. Remove the CD from the CD-ROM drive, and then click the **Finish** button to restart the computer.

---

## Changing the RTCP Listen Port

The RTCP Listen Port must be the same as that administered on the Avaya Communication Manager Server. Use this procedure to change the RTCP Listen Port on the VoIP Monitoring Manager server to match the port number administered on the Communication Manager. When you install the VoIP Monitoring Manager server, you are prompted for the RTCP Monitoring Listen Port. The default is 5005. See [Configuring the Avaya Communication Manager Administration Forms](#) on page 41 for more information.

To change the RTCP Listen Port, follow these steps:

1. Start the VoIP Monitoring Manager server application.
2. On the **Edit** menu, click **Options**.

The **Server Options** dialog box displays.

3. Click the **RTCP** tab and enter the new RTCPListen Port.
4. Click **OK** to save the changes and close the dialog box or **Cancel** to close without saving.

The VoIP Monitoring Manager Server will reset the properties and attempt to re-connect to the Windows SNMP Agent based on the new properties.

**Note:**

Changing the RTCP port displays a warning indicating it must match the port configured on the Avaya Communication Manager Server. See <http://www.iana.org/assignments/port-numbers> and your Avaya Communication Manager documentation. It is unusual to change the listen port from the default of 5005. The default should be suitable in most situations.

**Note:**

An SNMP Community ID with write privileges must be configured before changes can be applied. (See [Checking for Valid Community ID](#) on page 40.)

---

## Installing VoIP Monitoring Manager Licenses

After the WebLM License Server is installed, you can install the VoIP Monitoring Manager licenses so that you can use VoIP Monitoring Manager beyond the 90-day trial period.

**Note:**

To purchase the licenses, contact your Avaya representative.

To install VoIP Monitoring Manager licenses, follow these steps:

1. Select **Start > Programs > Avaya > Avaya Integrated Management WebLM Server Login**.

The Web License Manager login page appears.

2. In the **User Name** field, enter the default user name **admin**.
3. In the Password field, enter the default password, **weblmadmin**.
4. Click the **Login** button.

**Note:**

See the administrator for the WebLM License Server for the login and password to use after you log in for the first time using the default user name and password.

5. Click **Install Licenses** in the left-hand panel of the window.
6. Click the **Browse** button and select the license files you want to install.
7. Click the **Install** button to install the selected license files.

**Note:**

An error message appears if the license file name is invalid, belongs to another license server, or is already installed on the current license server.

8. Click **Licensed Products > IMMS** in the left-hand panel to display the license details.



# Chapter 7: Avaya Mailbox Manager

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## About Mailbox Manager

Mailbox Manager for the Avaya S3400 Message server is a Windows interface for performing moves, adds, and changes on the Message Storage Server (MSS) component. The software maintains an off-line database of your subscriber and class of service data. You make your changes to subscribers and classes of service in this interface, and it sends the changes to your MSS.

---

## Launching Mailbox Manager

The Avaya Mailbox Manager option is available from the Launch Products page, which is on the Avaya Integrated Management Launch Page. In order to launch Mailbox Manager from the Launch Products page, you must:

- Install Avaya Site Administration and/or Avaya Voice Announcement Manager which are provided on the Administration Tools CD. (See [Chapter 4: Administration Tools Installation](#).) The installation of at least one of these products automatically installs the components required to launch the Mailbox Manager from the Avaya Integrated Management Launch Page.
- Install Avaya Mailbox Manager on your PC. Installation software for Mailbox Manager is included on the Avaya Modular Messaging Installation CD that comes with the Avaya S3400. Follow the single-user instructions provided in the *Mailbox Manager Getting Started Guide*.
- Complete the licensing procedure as described in “[Licensing Mailbox Manager](#) on page 66.”

---

## Licensing Mailbox Manager

When you install Avaya Mailbox Manager, a single-user license is created. If your organization also manages other Avaya legacy message servers that are supported by Mailbox Manager (for example, Octel 250/350, Octel 200/300, or Intuity AUDIX) you may already have Mailbox Manager licenses for those as well. You can combine the licenses for these systems into one license and manage them from one interface if you upgrade those licenses to Mailbox Manager 5.0.

**Note:**

If you plan to use Mailbox Manager to manage your Messaging Services system along with Octel 250/350, Octel 200/300, or Intuity AUDIX system, then you cannot run Mailbox Manager from the Messaging Application software.

To get a combined license for all of your Avaya message servers, do the following:

1. Install Mailbox Manager for your Avaya S3400 by following the single-user instructions provided in the *Mailbox Manager Getting Started Guide*.
2. Locate your license file **C:\MBMData\Config\Config.2nl**.
3. Send an e-mail to **license@unimax.com** requesting the license. You will need to include a copy of your license file and identifying numbers for your legacy systems, as follows:
  - Octel 200/300 with system software 2.0 or newer — system serial number and current system software version.
  - Octel 250/350 with system software 2.0 or newer — system serial number (also known as VPMOD serial number) and current system software version.
  - Intuity AUDIX with system software 4.4 or newer — system serial number, current system software version, and model type. (MAP 40 and MAP 100 were sold with bundled licenses. MAP 5 is supported by Mailbox Manager but did not include a license.)

# Appendix A: Legal Information

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## Overview

This appendix contains information related to

- Avaya Network Management Enterprise Server Software
- Avaya Provisioning and Installation Manager Software

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## Avaya Network Management Enterprise Server Software

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